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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/518,918

12/29/2005

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122070

7252

25944 7590 11/02/2009  
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EXAMINER

BRAINARD, TIMOTHY A

ART UNIT

PAPER NUMBER

3662

MAIL DATE

DELIVERY MODE

11/02/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/518,918	<b>Applicant(s)</b> MCMURTRY ET AL.	
	<b>Examiner</b> TIMOTHY A. BRAINARD	<b>Art Unit</b> 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 9/23/2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 26-42 and 44-48 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-42 is/are allowed.
- 6) ☒ Claim(s) 44-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 44-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Beckworth Jr.** (US 4939678) in view of **Chen** (US 5739907) and **Matsugu et al** (US 5340992). **Beckworth** teaches a method for measuring deviation in the movement of a first body with respect to a second body, using a transmitter unit which outputs at least one light beam and an optic unit, wherein one of the transmitter unit and the optic unit is provided with one or more detector to detect one or more light beam transmitted to or reflected from the optic unit, the method comprising the steps of: mounting the transmitter unit on the first body; mounting the optic unit on the second body; determining the position of the light beam on the detector, recording said measurement so as to provide a measure of said deviation along a movement path of the first and second bodies (col 7, lines 31-50), (col 6, lines 21-64), (claim 45) the transmitter unit is mounted on an adjustable base unit which is mounted on the first body and wherein the position of the transmitter unit is adjusted by adjusting the adjustable base unit (col 1, lines 22-36), (claim 46) the feedback is used to maintain the light beam on a predetermined part of the detector (col 6, lines 21-64), (claim 47) the deviation is in part measured from the adjustment of the at least one of the position of the transmitter unit

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and the movement vector of the second body and in part measured from the position of the light beam on the detector (col 7, lines 31-50), (claim 48) the deviation is measured only from the adjustment of the at least one of the position of the transmitter unit and the movement vector of the second body (col 7, lines 31-50), **Beckworth** does not teach an incoherent light beam, at least one of a position of the transmitter unit and a movement vector of the second body in response to feedback from the determined position of the light beam on the detector in order to maintain the light beam on the detector during relative movement of the first and second bodies. **Chen** teaches adjusting automatically at least one of a position of the transmitter unit and a movement vector of the second body in response to feedback from the determined position of the light beam on the detector in order to maintain the light beam on the detector during relative movement of the first and second bodies (col 3, lines 3-30). It would have been obvious to modify **Beckworth** to include automatically at least one of a position of the transmitter unit and a movement vector of the second body in response to feedback from the determined position of the light beam on the detector in order to maintain the light beam on the detector during relative movement of the first and second bodies because it would keep the apparatus constantly aligned. **Matsugu** teaches (claim 44) an incoherent light beam used to measure alignment (col 12, lines 57-65). It would have been obvious to modify **Beckworth** to include an incoherent light beam because it is a simple substitution of a well known element for another to obtain a predictable result.

***Response to Arguments***

3. Applicant's arguments with respect to claims 44-48 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

4. Claims 26-42 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter: Beckworth does not teach nor make obvious the displacement of the two or more light beams incident on the at least one detector enables measurement of straightness error in at least one plane and at least one of pitch and yaw during said movement of the first body relative to the second body, and wherein the output of one detector is used in the measurement of both: i) at least one of straightness and roll; and ii) at least one of pitch and yaw.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY A. BRAINARD whose telephone number is (571)272-2132. The examiner can normally be reached on Monday - Friday 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571) 272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. A. B./  
Examiner, Art Unit 3662

/Thomas H. Tarcza/  
Supervisory Patent Examiner, Art Unit 3662